INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2005/004181

A. CLASSIFICATION OF SUBJECT MATTER
Int.Cl[7] C07D277/32

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
Int.Cl[7] C07D277/32

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Jitsuyo Shinan Koho 1922-1996 Jitsuyo Shinan Toroku Koho 1996-2005
Kokai Jitsuyo Shinan Koho 1971-2005 Toroku Jitsuyo Shinan Koho 1994-2005

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
CAplus(STN), CASREACT(STN)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
✓ A	JP 4-234864 A (Takeda Chemical Industries, Ltd.), 24 August, 1992 (24.08.92), Example 5 & US 5180833 A	1-6
✓A	JP 63-83079 A (Bayer AG.), 13 April, 1988 (13.04.88), & US 4748243 A	1-6
✓A	JP 2000-247963 A (Bayer AG.), 12 September, 2000 (12.09.00), & EP 1031566 A1	1-6

[X] Further documents are listed in the continuation of Box C. [ ] See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
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"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
30 May, 2005 (30.05.05)	14 June, 2005 (14.06.05)
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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 3-251575 A (Bayer AG.), 11 November, 1991 (11.11.91), Example 8 & EP 432563 B1 & US 5068343 A	1-6
A	JP 2002-255948 A (Takeda Chemical Industries, Ltd.), 11 September, 2002 (11.09.02), Full text & EP 1219613 A1	1-6
A	JP 9-316062 A (Kuraray Co., Ltd.), 09 December, 1997 (09.12.97), Full text & EP 794180 A1	1-6

In connection with the purification processes of claims 1-6, the description discloses only a process which comprises reacting 2-halogenoallyl isothiocyanate with a chlorinating agent to obtain a reaction fluid, distilling the reaction fluid to remove the solvent, adding a lower alcohol to the residue, stirring the obtained mixture under heating, and then distilling the resulting mixture.

In a synthesis reaction, by-products contained in the reaction fluid depend on the used raw materials. Therefore, a person skilled in the art cannot understand that when the above process is conducted by use of other raw materials, it also brings about a high-purity product in a high yield. Further, when a solvent is added to a reaction fluid (or a residue thereof) and the obtained mixture is stirred under heating for a specified time like in the process disclosed in the description, the reaction must further proceed if unreacted raw materials remain. Therefore, the claims not accompanied with such requirements include matters undisclosed in the description.